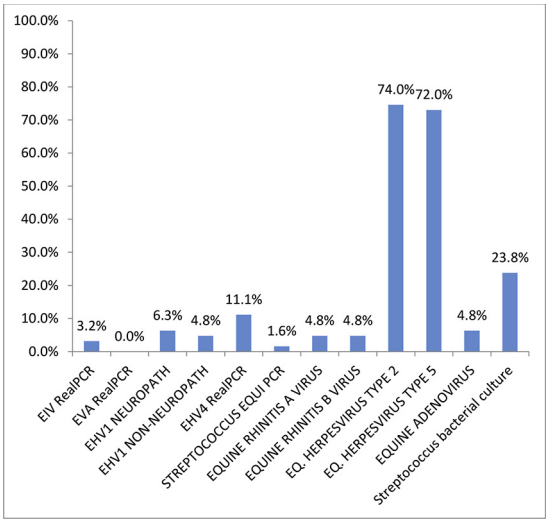

Figure 1. Percentage of horses positive via PCR testing of nasal swabs for each disease category

horses (7/63; 11%) were positive for EHV 4 on nasal swab, and five horses (5/63; 8%) were positive for EHV 1 on nasal swab. Four horses (4/63; 6%) were positive for the EHV 1 neuropathic strain only. Three horses (3/63; 5%) were positive for the EHV 1 non-neuropathic strain only. Two horses (2/63; 3%) were positive for both the neuropathic and non-neuropathic strains of EHV 1. Three horses (3/62; 5%) were positive on nasal swab only for Adenovirus. Three horses (3/63; 5%) were positive for Equine Rhinitis A virus on nasal swab, and three horses (3/63; 5%) were positive for Equine Rhinitis B virus on nasal swab only. Two horses (2/63; 3%) were positive for EIV on nasal swab, and one horse (1/63; 2%) was positive for S. Equi on blood only. In this study, Herpesviruses were most commonly detected organisms. Of these, EHV 2 and EHV 5 were the most prevalent. The results of the study demonstrate that EHVs 2, 5, and 4, play a role in the development of upper respiratory tract disease in this subpopulation of racehorses. Their exact role and how they interact with the other viruses detected is yet to be elucidated.

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Serological investigation of equine respiratory outbreaks at a racetrack in Ontario, Canada (2011-2015)

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Equine respiratory viral disease is considered one of the most detrimental problems in the equine population. Common respiratory viruses such as equine influenza virus, equine herpes viruses and equine rhinitis viruses are associated with respiratory outbreaks worldwide. Therefore, this serological survey investigated etiological agents associated with respiratory disease during outbreaks at a major racetrack in Ontario, Canada. Acute and convalescent serum samples were collected in 2011 (n=25), 2012 (n=22), 2014 (n=16) and 2015 (n=33) from racing horses showing clinical signs consistent with fever, nasal discharge and loss of appetite, in the course of a respiratory outbreak. Sera were paired when possible and tested for antibodies to equine influenza virus (EIV), equine herpesvirus 1 and 4 (EHV1 and EHV4), equine rhinitis A virus (ERAV) and equine rhinitis B (ERBV). Overall both EIV and ERAV were identified as the most prevalent and the cause of the four respiratory outbreaks. Interestingly, specific antibody titres raised to ERAV in the 2014 outbreak were unprecedented. In conclusion, it is not uncommon to identify EIV as a cause of respiratory outbreaks in North America but the high prevalence of ERAV alone or in combination with EIV is not a common feature of viral respiratory outbreaks worldwide. From the present findings, it would be prudent in any respiratory outbreak not only to consider EIV and EHV1/EHV4 but equally ERAV.

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Investigation of the presence of Mycoplasma species as the etiologic agents of inflammatory airway diseases in thoroughbred racehorses in Istanbul province

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Mycoplasma equirhinis and *Mycoplasma felis* are thought to be two of the etiologic agents of inflammatory airway disease (IAD) which is the second most encountered disorder causing poor performance after musculosketal injuries in thoroughbred race horses (Cardwell et al., 2013; Chanter, 2002; Hodgson et al., 2002; Mair, 1996; Newton et al., 2003; Smith, 2011; Wood, 1996; Wood, 1997; Wood et al. 2005). The aims of this study was (i) to investigate the presence of *M. equirhinis*, *M. felis* and also *Mycoplasma* spp. in thoroughbred racehorses in Istanbul province / Turkey for the first time. (ii) to evaluate the association between IAD clinical symptoms and the presence of these agents statictically. In the present study tracheal wash samples were

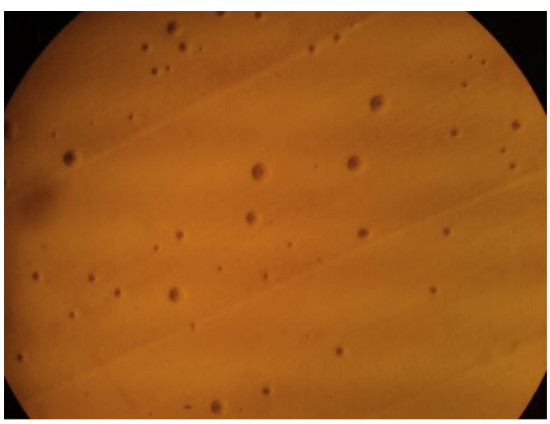

Figure 1. *M. equirhinis* colonies isolated from tracheal wash samples.

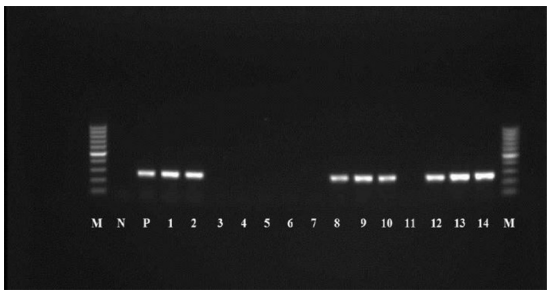

Figure 2. *Mycoplasma* spp. PCR findings of the cultures. (M: Marker 100-1000 bp, 500 ref. band, P: positive control, N: negative control, 1, 2, 8, 9, 10, 12, 13, 14: positive samples, 3, 4, 5, 6, 7, 11: negative samples).

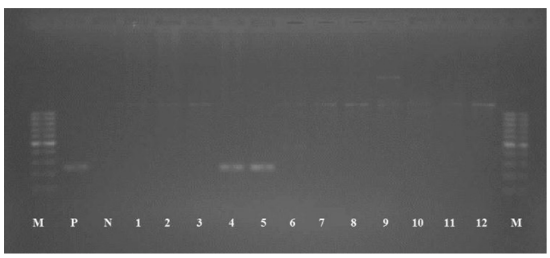

Figure 3. *M. felis* PCR findings of the tracheal washes. (M: Marker 100-1000 bp, 500 ref. band, P: positive control, N: negative control, 4, 5: positive samples, 1, 2, 3, 6, 7, 8, 9, 10, 11, 12: negative samples).

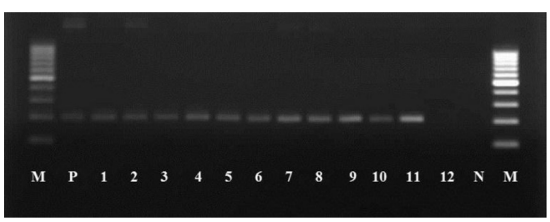

Figure 4. *M. equirhinis* PCR findings of the *Mycoplasma* spp. confirmed isolates. (M: Marker 100-1000 bp, 500 ref. band, P: Positive control, N: Negative control, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11: Positive samples, 12: Negative sample).

collected from 111 thoroughbred English (73,88 %) and Arabian (26,12 %) horses which were showing the clinical signs such as coughing, high body temperature (38,6°C <), submandibular lympadenopathy, tracheal mucus accumulation (classifed as none, few, intermediate, high), nasal discharge (Hodgson 2002, Christley et al 2001). The clinical signs, age, gender and race informations were recorded while collecting the samples. The tracheal wash samples were examined with culture (Christley et al. 2001) and molecular (PCR) methods (Kuppeveld et al 1992, Chalker et al. 2004, Robinson's unpublished study) as previously described. Statistical analysis of the relationship of the clinical symptoms and the presence of the mycoplasmas were done by Chi square (X^2) test (Akdamar et al. 1999). As a result of the culture, *Mycoplasma* spp. were isolated from 18 (16,2%) of the 111 samples (Figure 1) and all of these isolates were identified as *Mycoplasma* spp. (Figure 2) and *M. equirhinis* (Figure 4) by PCR respectively. *M. felis* was not isolated from any of the tracheal wash samples. In PCR analysis *Mycoplasma* spp. were found positive in 66 (59,5 %) samples while *M. equirhinis* and *M. felis* were found positive in 7 (6,3 %) and 2 (1,8 %) samples (Figure 3) respectively. As a result of the whole (both PCR and culture) laboratory analysis *Mycoplasma* spp. was found 59,5 % while *M. equirhinis* was found 18 % and *M. felis* was found 1,8 % in tracheal wash samples. According to the statictical evaluations, the presence of *Mycoplasma* spp., *M. equirhinis* and *M. felis* in tracheal wash samples could not be associated with any clinical symptoms of IAD in thoroughbred English and Arabian racehorses.

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